Supplemental Table 1. The percent of larval sea lamprey recovered in the adult stage after being implanted with coded wire tags and released into stream (Streams) and river mouth environments (Lentic Areas) between 2005 and 2007 according to size class when stocked as larvae. Parentheses report the number of adult sea lamprey recovered (numerator) and the number of larvae released (denominator). Data taken from Johnson et al. 2014[1] and Johnson et al. 2016[2].

	Streams					Lentic areas		
Size Range (mm)	East AuGres R	Ford R	White R	Pine R	Steeles R	Carp L	Hog Island L.	Bear L.
120+	6% (22/361)	10% (22/222)	3% (16/505)	<1% (3/619)	3% (8/285)	4% (8/206)	4% (2/45)	11% (1/9)
100-119	5% (35/736)	11% (19/173)	1% (8/625)	1% (7/515)	<1% (3/648)	5% (25/539)	3% (13/481)	2% (3/153)
80-99	2% (18/803)	6% (11/176)	<1% (1/1,350)	1% (2/303)	0% (0/910)	2% (27/1,128)	2% (37/1,635)	2% (16/751)
60-79	3% (19/703)	<1% (2/1,297)	0% (0/973)	2% (12/772)	0% (0/1,199)	1% (16/1,683)	1% (12/1,376)	1% (11/872)
Average	4% (94/2603)	3% (54/1868)	1% (25/3453)	1% (24/2209)	<1% (11/3042)	2% (76/3556)	2% (64/3537)	2% (31/1785)

Supplemental Table 2. Estimated rates of larval sea lamprey growth, survival, and the length at which 50% of larvae are predicted to undergo metamorphosis when stocked in stream and river mouth environments (Lentic). Data taken from Johnson et al. 2014[1] and Johnson et al. 2016[2].

Location	Brody growth coefficient	Annual Survival	Length at which 50% of larvae undergo metamorphosis
Streams	0.0021 to 0.0048	57%	143
Lentic	0.0013	63%	126

Supplemental Table 3. Larval sea lamprey were implanted with coded wire tags and released into streams and river mouth environments (Lentic Areas) between 2005 and 2007. The table lists the percent of recaptured tagged adult sea lamprey that were male. Data are categorized according to year of recovery as an adult (stocked as larvae during year 0). Number in parenthesis is the number of adult sea lamprey recovered during each year and release location.

	Streams					**Lentic Areas**		
Year Recovered	East AuGres R	Ford R	White R	Pine R	Steeles R	Carp L	Hog Island L.	Bear L.
Year 2	NA	80% (10)	NA	100% (1)	NA	50% (4)	NA	NA
Year 3	71% (21)	80% (15)	57% (23)	100% (1)	100% (3)	75% (4)	0% (2)	0% (1)
Year 4	62% (53)	79% (29)	50% (2)	78% (9)	50% (8)	81% (37)	91% (23)	100% (5)
Year 5	69% (16)	NA	NA	31% (13)	NA	85% (13)	86% (28)	84% (19)
Year 6	50% (4)	NA	NA	NA	NA	53% (15)	78% (9)	67% (3)
Year 7	NA	NA	NA	NA	NA	33% (3)	100% (2)	100% (3)
Average	65% (94)	80% (54)	56% (25)	54% (24)	64% (11)	72% (76)	84% (64)	84% (31)

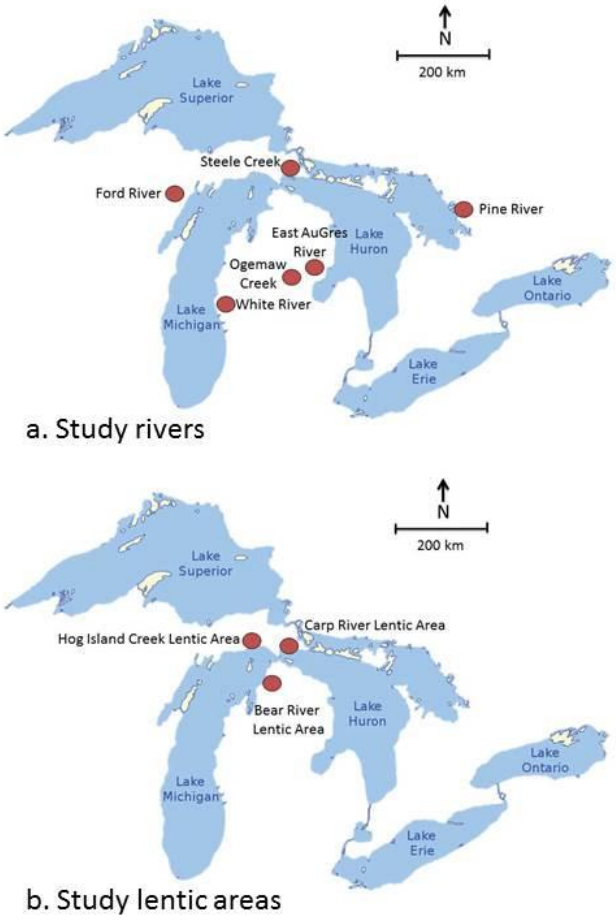
Supplemental Table 4. Larval sea lamprey were implanted with coded wire tags and released into streams and river mouth environments (Lentic Areas) between 2005 and 2007. The table lists the percent of recaptured tagged adult sea lamprey that were male according the length the larvae were stocked. Data are categorized according to year of recovery as an adult (stocked as larvae during year 0). Number in parenthesis is the number of adult sea lamprey recovered from each size range and release location.

	Streams					**Lentic Areas**		
Size Range (mm)	East AuGres R	Ford R	White R	Pine R	Steeles R	Carp L	Hog Island L.	Bear L.
120+	68% (22)	77% (22)	69% (16)	33% (3)	75% (8)	38% (8)	0% (2)	0% (1)
100-119	54% (35)	79% (19)	25% (8)	86% (7)	33% (3)	84% (25)	77% (13)	67% (3)
80-99	61% (18)	82% (11)	100% (1)	100% (2)	NA	85% (27)	95% (37)	100% (16)
60-79	84% (19)	100% (2)	NA	33% (12)	NA	50% (16)	75% (12)	82% (11)
	65% (94)	80% (54)	56% (25)	54% (24)	64% (11)	72% (76)	84% (64)	84% (31)

Supplemental Table 5: Sex ratio of untagged adult sea lamprey captured in the same traps as tagged adult sea lamprey in tributaries to Lakes Michigan and Huron

Year	% Males	n	# Males	# Females
2007	53%	3,126	1,666	1,460
2008	57%	2,228	1,264	964
2009	54%	2,725	1,485	1,240
2010	58%	8,841	5,146	3,695
2011	60%	10,912	6,555	4,357
2012	60%	14,047	8,442	5,605
2013	61%	8,947	5,495	3,452
2014	59%	8,696	5,131	3,565
	59%	59,522	35,184	24,338

Supplemental Figure 1. Streams (a.) and stream mouth areas (lentic areas, b.) where sea lamprey larvae were stocked to evaluate growth, metamorphosis, and survival between 2005 and 2007.



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